

FORM PTO-1449 (modified)
 To: U.S. Department of Commerce
 (PW FORM PAT-1449)
 Patent and Trademark Office



Atty. Dkt. No.	M#	Client Ref.
	307087	P-0395.010-US
Applicant: SIMON et al.		
Appln. No.: 10/724,402		
Filing Date: December 1, 2003		
Examiner: Unknown		Group Art Unit: 1753

INFORMATION DISCLOSURE STATEMENT
 BY APPLICANT

Date: March 30, 2004

Page 1 of 3

U.S. PATENT DOCUMENTS

Examiner's Initials*		Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
PL	AR	3,573,975	04/1971	Dhaka et al.	117	212	
	BR	3,648,587	03/1972	Stevens	95	44	
	CR	4,346,164	08/1982	Tabarelli et al.	430	311	
	DR	4,396,705	08/1983	Akeyama et al.	430	326	
	ER	4,480,910	11/1984	Takanashi et al.	355	30	
	FR	4,509,852	04/1985	Tabarelli et al.	355	30	
	GR	5,040,020	08/1991	Rauschenbach et al.	355	53	
	HR	5,121,256	06/1992	Corle et al.	359	664	
	IR	5,610,683	03/1997	Takahashi	355	53	
	JR	5,715,039	02/1998	Fukuda et al.	355	53	
	KR	5,825,043	10/1998	Suwa	250	548	
	LR	5,900,354	05/1999	Batchelder	430	395	
PL	MR	6,191,429	02/2001	Suwa	250	548	
PL	NR	6,560,032	05/2003	Hatano	359	656	

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
PL	OR WO 99/49504	09/1999	PCT	Fukami et al.		X		X
	PR EP 0023231	02/1981	Europe	Tabarelli et al.		X		
	QR EP 0418427	03/1991	Europe	Miyake		X		X
	RR EP 1039511	09/2000	Europe	Murakimi et al.		X		X
	SR DD 224448	07/1985	German	Hesse et al.			X	
	TR DD 242880	02/1987	German	Kuch			X	
	UR FR 2474708	07/1981	France	Letellier			X	
	VR JP 62-065326	03/1987	Japan	Moriuchi		X		
PL	WR JP 62-121417	06/1987	Japan	Nakazawa		X		
PL	XR JP 63-157419	06/1988	Japan	Nakasuji		X		

OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

PL	YR	EP Search Report for EP 02258278.7 dated October 22, 2003		
	ZR	M. Switkes et al., "Immersion Lithography at 157 nm", MIT Lincoln Lab, Orlando 2001-1, December 17, 2001		
	AAR	M. Switkes et al., "Immersion Lithography at 157 nm", J. Vac. Sci. Technol. B., Vol. 19, No. 6, November/December 2001, pp. 2353-2356		
PL	BBR	M. Switkes et al., "Immersion Lithography: Optics for the 50 nm Node", 157 Anvers-1, September 4, 2002		

Examiner *Pete K. Khu* Date Considered: 12/9/05

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449 (modified) To: U.S. Department of Commerce (PW FORM PAT-1449) Patent and Trademark Office					Atty. Okt. No.	M#	Client Ref.			
						307087	P-0395.010-US			
INFORMATION DISCLOSURE STATEMENT BY APPLICANT					Applicant: SIMON et al. Appln. No.: 10/724,402 Filing Date: December 1, 2003					
Date: March 30, 2004		Page	2	of	3	Examiner: Unknown	Group Art Unit: 1753			
U.S. PATENT DOCUMENTS										
Examiner's Initials*		Document Number	Date MM/YYYY	Name (Family Name of First Inventor)		Class	Sub Class	Filing Date (if appropriate)		
PL	AR	6,603,130	08/2003	Bisschops et al.		250	492.1			
	BR	6,633,365	10/2003	Suenaga		355	53			
	CR	2002/0041420	04/2002	Garner		359	212			
	DR	2002/0163629	11/2002	Switkes et al.		355	53			
PL	ER	2003/0123040	07/2003	Almogy		355	69			
PL	FR	2003/0174408	09/2003	Rostalski et al.		359	642			
	GR									
	HR									
	IR									
	JR									
FOREIGN PATENT DOCUMENTS							English Abstract	Translation Readily Available		
		Document Number	Date MM/YYYY	Country	Inventor Name		Enclosed	No	Enclose	No
PL	KR	JP 04-305915	10/1992	Japan	Ozeki et al.		X			
	LR	JP 04-305917	10/1992	Japan	Ozeki et al.		X			
	MR	JP 06-124873	05/1994	Japan	Takahashi		X			X
	NR	JP 07-220990	08/1995	Japan	Fukuda et al.		X			
	OR	JP 10-228661	08/1998	Japan	Kurokawa		X			
	PR	JP 10-255319	09/1998	Japan	Suenaga et al.		X			
	QR	JP 10-303114	11/1998	Japan	Suwa		X			X
	RR	JP 10-340846	12/1998	Japan	Kudo		X			X
	SR	JP 2001-091849	04/2001	Japan	Aizaki et al.		X			
	TR	JP 58-202448	11/1983	Japan	Kawamura et al.		X			
	UR	WO 2004/019128	03/2004	PCT	Omura et al.					
PL	VR	WO 03/077036	09/2003	PCT	Schuster		X			
PL	WR	JP 07-132262	05/1995	Japan	Hirakawa et al.		X			
	XR									
	YR									
	ZR									
OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)										
PL	AAR	B.J. Lin, "Drivers, Prospects and Challenges for Immersion Lithography", TSMC, Inc., September 2002								
PL	BBR	B.J. Lin, "Proximity Printing Through Liquid", IBM Technical Disclosure Bulletin, Vol.20, No. 11B, April 1978, p. 4997								
Examiner <i>PL</i>		Date Considered: <i>12/19/05</i>								
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.										

FORM PTO-1449 (modified)
 To: U.S. Department of Commerce
 (PW FORM PAT-1449)
 Patent and Trademark Office

Atty. M# Client Ref.

307087

P-0395.010-US

INFORMATION DISCLOSURE STATEMENT MAR 30 2004
 BY APPLICANT



Date: March 30, 2004

Page 3 of 3

Applicant: SIMON et al.

Appln. No.: 10/724,402

Filing Date: December 1, 2003

Examiner: Unknown

Group Art Unit: 1753

U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
AR						

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract	Translation Readily Available
					Enclosed	No
	BR					

OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

CR	B.J. Lin, "The Paths To Subhalf-Micrometer Optical Lithography", SPIE Vol. 922, Optical/Laser Microlithography (1988), pp. 256-269	/
DR	G.W.W. Stevens, "Reduction of Waste Resulting from Mask Defects", Solid State Technology, August 1978, Vol.21 008, pp. 68-72	/
ER	S. Owa et al., "Immersion Lithography; its potential performance and issues", SPIE Microlithography 2003, 5040-186, February 27, 2003	/
FR	S. Owa et al., "Advantage and Feasibility of Immersion Lithography", Proc. SPIE 5040 (2003)	/
GR	Nikon Precision Europe GmbH, "Investor Relations – Nikon's Real Solutions", May 15, 2003	/
HR	H. Kawata et al., "Optical Projection Lithography using Lenses with Numerical Apertures Greater than Unity", Microelectronic Engineering 9 (1989), pp. 31-36	/
IR	J.A. Hoffnagle et al., "Liquid Immersion Deep-Ultraviolet Interferometric Lithography", J. Vac. Sci. Technol. B., Vol. 17, No. 6, November/December 1999, pp. 3306-3309	/
JR	B.W. Smith et al., "Immersion Optical Lithography at 193nm", FUTURE FAB International, Vol. 15, July 11, 2003	/
KR	H. Kawata et al., "Fabrication of 0.2μm Fine Patterns Using Optical Projection Lithography with an Oil Immersion Lens", Jpn. J. Appl. Phys. Vol. 31 (1992), pp. 4174-4177	/
LR	G. Owen et al., "1/8μm Optical Lithography", J. Vac. Sci. Technol. B., Vol. 10, No. 6, November/December 1992, pp. 3032-3036	/
MR	Cerrina et al., "Biological lithography: development of a maskless microarray synthesizer for DNA chips", Microelectronic Engineering 61-62:33-40 (2002)	/
NR	Singh-Gasson et al., "Maskless fabrication of light-directed oligonucleotide microarrays using a digital micromirror array", Nature Biotechnology 17:974-978 (1999)	/
OR	S. Owa et al., "Update on 193nm immersion exposure tool", Litho Forum, International SEMATECH, Los Angeles, January 27-29, 2004, Slide Nos. 1-51	/
PR	H. Hata, "The Development of Immersion Exposure Tools", Litho Forum, International SEMATECH, Los Angeles, January 27-29, 2004, Slide Nos. 1-22	/
QR	T. Matsuyama et al., "Nikon Projection Lens Update", SPIE Microlithography 2004, 5377-65, March, 2004	/
RR	"Depth-of-Focus Enhancement Using High Refractive Index Layer on the Imaging Layer", IBM Technical Disclosure Bulletin, Vol. 27, No. 11, April 1985, p. 6521	/
SR	A. Suzuki, "Lithography Advances on Multiple Fronts", EEdesign, EE Times, January 5, 2004	/
TR		

Examiner

Peter R. Kru

Date Considered:

12/9/05

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449 (modified)
 To: U.S. Department of Commerce
 (PW FORM PAT-1449)
 Patent and Trademark Office



**INFORMATION DISCLOSURE STATEMENT
 BY APPLICANT**

Date: May 6, 2004

Page **1** of **1**

Atty. Dkt. No.	M#	Client Ref.
	307087	P-0395.010-US
Applicant: SIMON et al.		
Appln. No.: 10/724,402		
Filing Date: December 1, 2003		
Examiner: Unknown		Group Art Unit: 1753

U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
PL	AR 5,143,854	09/1992	PIRRUNG et al.	436	518	
PL	BR 6,040,193	03/2000	WINKLER et al.	436	180	
CR						
DR						
ER						
FR						
GR						
HR						
IR						
JR						
KR						
LR						
MR						
NR						

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
OR								
PR								
QR								
RR								
SR								
TR								
UR								
VR								
WR								

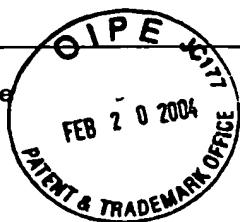
OTHER (Including in this order: Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

XR	European Search Report for EP 03257496.4		
YR			
ZR			
AAR			
BBR			
CCR			

Examiner *Pete R. K.* Date Considered: *12/9/05*

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449 (modified)
 To: U.S. Department of Commerce
 (PW FORM PAT-1449)
 Patent and Trademark Office



Atty. Dkt. No.	M#	Client Ref.
081468	0307087	P-0395.010-US
Applicant: Klaus SIMON et al.		
Appln. No.: 10/724,402		
Filing Date: December 1, 2003		
Examiner: Unassigned		Group Art Unit: Unassigned

INFORMATION DISCLOSURE STATEMENT
 BY APPLICANT

Date: February 20, 2004

Page **1** of **1**

U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
PL	AR 2004/0000627A1	01/01/2004	Karl-Heinz SCHUSTER			
PK	BR 6,600,547	07/29/2003	WATSON et al.			
dh	CR 2004/0021844 A1	02/05/2004	Yutaka SUENAGA			
DR						
ER						
FR						
GR						
HR						
IR						
JR						
KR						
LR						
MR						
NR						

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
OR								
PR								
QR								
RR								
SR								
TR								
UR								
VR								
WR								
XR								

OTHER (including in this order: Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

PL	YR	H. Hogan, "New Semiconductor Lithography Makes a Splash", PHOTONICS SPECTRA, Photonics TechnologyWorld, October 2003 Edition, pgs. 1-3		
dh	ZR	S. Owa and N. Nagasaka, "Potential Performance and Feasibility of Immersion Lithography", NGL Workshop 2003, July 10, 2003, Slide Nos. 1-33.		
	AAR			
	BBR			
	CCR			
	DDR			

Examiner *Pete B. Johnson* Date Considered: *12/9/05*

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449 (modified)
To: U.S. Department of Commerce
(PW FORM PAT-1449)
Patent and Trademark Office



**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT**

Date: February 2, 2005

Page **1** of **2**

Atty. Dkt. No.	M#	Client Ref.
	0307087	P-0395.010-US
Applicant:	SIMON et al.	
Appln. No.:	10/724,402	
Filing Date:	December 1, 2003	
Examiner:	Unknown	Group Art Unit: 1753

U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
PK	AR 4,390,273	06/1983	LOEBACH et al.	355	125	
	BR 6,236,634 B1	05/2001	LEE et al.	369	112	
	CR 2002/0020821 A1	02/2002	VAN SANTEN et al.	250	492	
	DR 2004/0075895 A1	04/2004	LIN	359	380	
	ER 2004/0109237 A1	06/2004	EPPEL et al.			
↓	FR 2004/0119954	06/2004	KAWASHIMA et al.	355	30	
PK	GR 2004/0125351	07/2004	KRAUTSCHIK	355	53	
HR						
IR						
JR						

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
PL	KR WO 03/077037	09/2003	PCT	ROSTALSKI et al.		X		X
	LR DD 206 607	02/1984	GERMANY	WESTPHAL et al.			X	
	MR DD 221 563	04/1985	GERMANY	PFORR et al.			X	
↓	NR JP 11-176727	07/1999	JAPAN	SHIRAISHI		X		
PL	OR JP 2000-058436	02/2000	JAPAN	FUJISHIMA et al.		X		
PR								
QR								
RR								
SR								

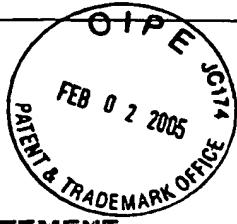
OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

PL	TR B. LIN, "The k_3 coefficient in nonparaxial λ/NA scaling equations for resolution, depth of focus, and immersion lithography, <i>J. Microlith., Microfab., Microsyst.</i> 1(1):7-12 (2002).			
UR				
VR				
WR				
XR				
YR				
ZR				

Examiner *Pete J. Johnson* Date Considered: *12/9/05*

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449 (modified)
 To: U.S. Department of Commerce
 (PW FORM PAT-1449)
 Patent and Trademark Office



Atty. Dkt. No.	M#	Client Ref.
	0307087	P-0395.010-US
Applicant: SIMON et al.		
Appln. No.: 10/724,402		
Filing Date: December 1, 2003		
Date: February 2, 2005	Page 2 Of 2	Examiner: Unknown Group Art Unit: 1753

U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
	AAR					
	BBR					

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
CCR	WO 2004/053950 A1	06/2004	PCT	OWA			X	
DDR	WO 2004/053951 A1	06/2004	PCT	MAGOME et al.			X	
EER	WO 2004/053952 A1	06/2004	PCT	MAGOME et al.			X	
FFR	WO 2004/053953 A1	06/2004	PCT	NEI et al.			X	
GGR	WO 2004/053954 A1	06/2004	PCT	NEI et al.			X	
HHR	WO 2004/053955 A1	06/2004	PCT	HIRUKAWA et al.			X	
IIR	WO 2004/053956 A1	06/2004	PCT	NAGASAKA et al.			X	
JJR	WO 2004/053957 A1	06/2004	PCT	HIDAKA et al.			X	
KKR	WO 2004/053958 A1	06/2004	PCT	MIZUTANI et al.			X	
LLR	WO 2004/053959 A1	06/2004	PCT	SHIRAI			X	
MMR	WO 2004/053596 A2	06/2004	PCT	GRAUPNER			X	
NNR	WO 2004/055803 A1	07/2004	PCT	VAN SANTEN			X	X
OOR	WO 2004/057589 A1	07/2004	PCT	NEIJZEN et al.			X	X
PPR	WO 2004/057590 A1	07/2004	PCT	VAN SANTEN et al.			X	X
QQR	JP 2004-193252	07/2004	Japan	Not Available			X	

OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

RRR								
SSR	<i>references</i>							
TTR	<i>not provided</i>							
UUR								
VVR								
WWR								
XXR								

Examiner *Pete R. J.*

Date Considered: *12/19/05*

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.